Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 97 of the	)	WT Docket No. 05-235
Commission's Rules	)	
To Implement WRC-03 Regulations	)	RM-10781, RM-10782, RM-10783,
Applicable to Requirements for	)	RM-10784, RM-10785, RM-10786,
Operator Licenses in the Amateur	)	RM-10787, RM-10805, RM-10806,
Radio Service	)	RM-10807, RM-10808, RM-10809,
	)	RM-10810, RM-10811, RM-10867,
	)	RM-10868, RM-10869, RM-10870

To: The Commission

REPLY COMMENTS, BY JAMES K. BOOMER (November 12, 2005)

The following comments are submitted regarding *Notice of Proposed Rule Making* (The Notice), FCC 05-143A1, WT Docket No. 05-235 released on July 19, 2005.

These *Reply Comments* address the key issues in all those *Comments* and *Reply Comments* relative to the Morse code amateur radio licensing issue.

Summary

The Regulatory Need:

The ability of radio amateurs to communicate via Morse code is mandatory in order for this service to meet the requirements of Part 97, Sections 97.1, 97.3, and 97.4 of the Commission's Rules, because it provides life-saving connectivity when all other modes fail:

From Sec. 97.1 Basis and purpose:

"The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, **particularly with respect to providing emergency communications** (emphasis added)."

Five words-per-minute (5 WPM) Morse code can be decoded with 25.74dB less antenna terminal carrier input power than SSB Voice, and 11.1dB less antenna terminal carrier input power than coded QPSK PSK31. ***This weak signal capability is a critical life and death difference in emergency communications[1].***

Radio amateur population:

No one has submitted any substantive data showing that elimination of the Morse code licensing requirement would increase the number of radio amateurs.

Many supporters of the NPRM (e.g. National Conference of Volunteer Examiner Coordinators et al) have asserted, *without submitting any substantive supporting data*, that more people will become radio amateurs if the FCC removes the Morse code requirement. The facts do not support this assertion. Indeed, the amateur radio licensee statistics (http://ah0a.org/FCC/Licenses.html) referenced in the NPRM show that in April 2000, when the reduction of Morse code requirements to 5WPM began, with a principal aim at increasing the number of radio amateurs, there were 678,539 licensed radio amateurs. However, as of August 1, 2005, there were 661,301 licensed radio amateurs. So the total number of licensed radio amateurs has decreased 2.5% since the FCC relaxed the Morse code licensing requirements.

The substantial reduction in Morse code requirements from 13 WPM for Advanced and General, and 20 WPM for Amateur Extra classes, to 5 WPM, has failed to produce an increase in the number of radio amateur licensees.

Morse code use:

Many (e.g. No Code International et al) assert that the U.S. government agencies and others no longer use Morse code, so why should radio amateurs be required to demonstrate proficiency in this obsolete mode? First, this assertion is false. Second, it is irrelevant to the issue at hand, because it ignores the fact that Morse code is required for the amateur radio service to meet the emergency communication objectives of FCC regulations as noted above. Nevertheless the following brief discussion debunks the claim that Morse code is "obsolete" and "not used much anymore."

Many opponents of Morse code requirements for amateur licensing attempt to convince others that Morse code is "obsolete" and virtually non-existent in today's "modern world." However, the facts clearly show that Morse code is in wide use in today's radio amateur emergency net traffic systems, military

[1] See 09/20/05 James K. Boomer *Reply to Comments* for details

services, and throughout the world (e.g. Michigan Net "QMN;" Andrew Roos, ZS1AN; Roger Cameron, N8KV; The Society for The Preservation of Amateur Radio; Mr. Scott McMullen; Mr. Charles Young; et al).

The U.S. Army, Navy, Air Force, Marine Corps, and Special Forces Commands have communications specialties that require Morse code knowledge and skill. Some examples include:

1. U.S. Air Force Specialty Code (AFSC) 1N231 (requires ability to transcribe Morse code at 20 words per minute)
2. U.S. Army Military Occupation Specialty (MOS) 98H, Communications Intelligence
3. MOS 352H, Morse Intercept Technician
4. MOS 98H, Communications Locator/Interceptor
5. MOS 98C, Signals Intelligence Analyst
6. MOS 18E, Special Forces Sergeant.
7. Also, see http://www.af.mil/news/story.asp?storyID=123011888 and http://www.historyplace.com/specials/personal/schmidt3.htm for two of many first-hand stories of how Morse code has saved the lives of people, including military prisoners of war.

There are numerous Occupational Specialties in the U.S. Army, U.S. Air Force, Navy, Marine Corps, and Special Forces that require and use Morse code.

Learning Morse code:

It is well known that when a person learns to recognize the Morse characters by ear, and send them, he or she can essentially send and receive Morse code at five words per minute, which is approximately 25 plain text characters per minute, or about one character every 2.4 seconds.

The secret to learning any new skill is dedication. Given this, one can develop the necessary Morse code skill through daily learning, repetition, and practice, just like one learns how to ride a bicycle, drive a car, play a musical instrument, or a sport. It is difficult to learn and develop any new skill if one is not dedicated enough to stay with it, every day, until one learns the basics.

Discussion

The need for accurate information:

It is essential that the FCC have accurate information in this proceeding. Unfortunately, some who propose dropping the Morse code requirement present false, erroneous, and irrelevant arguments and data.

Many comments supporting the elimination of Morse code contain erroneous claims, and technical errors that clearly demonstrate a lack of understanding of basic communication-electronics theory and principles.

For example, one claimant (e.g. Leonard H. Anderson) purports to be a communications expert, but has clearly demonstrated a lack of understanding of such basics as decibels, and basic communication system principles and theory. Additionally, claims that modern digital modes can operate satisfactorily when their received signals are at or below the receiver's noise level (e.g. Mr. James Perryman; No Code International; Mr. John Fullingham et al), display a lack of understanding of basic communication system principles.

All electronic communication systems require a positive decibel signal-to-noise (S/N) in their information bandwidths.[2] However, skilled Morse code operators can decode 5-10 words-per-minute Morse code at 0dB (S/N).

It is curious that some who hold no radio amateur license (e.g. Mr. Leonard H. Anderson et al) appear to have such an intense interest in the NPRM Morse code issue, and even attack the American Radio Relay League, which has long demonstrated its full dedication to amateur radio.

Summary

Clearly, the FCC will carefully evaluate the total accuracy of all communications it receives relative to WT Docket No. 05-235. Accordingly, it will discount inaccurate and irrelevant material, some of which has been identified above.

Morse code is essential for amateur radio:

The requirement for Morse code proficiency is mandatory in order for the amateur radio service to fully comply with the emergency communications provisions of Part 97, Sections 97.1, 97.3, and 97.4 of the Commission's Rules:

From Sec. 97.1 Basis and purpose:

"The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, **particularly with respect to providing emergency communications** (emphasis added)."

[2] See James K. Boomer October 18, 2005 *Comments*

Five words-per-minute (5 WPM) Morse code can be decoded with 25.74dB less antenna terminal carrier input power than SSB Voice, and 11.1dB less antenna terminal carrier input than coded QPSK PSK31. ***This weak signal capability is a critical life and death difference in emergency communications[3].***

[3] See 09/20/05 James K. Boomer *Reply to Comments* for details

Statistics fail to show that eliminating Morse code licensing requirements will increase the number of radio amateurs:

The amateur radio licensee statistics (http://ah0a.org/FCC/Licenses.html) referenced in the NPRM show that the total number of licensed radio amateurs has decreased 2.5% since the FCC relaxed the Morse code licensing requirements. Thus, the substantial reduction in Morse code requirements from 13 WPM for Advanced and General, and 20 WPM for Amateur Extra classes, to 5 WPM, has failed to produce an increase in the number of radio amateur licensees. Hence, the facts do not support the claim that a reduction of Morse code requirements would increase the number of radio amateurs.

Those who claim that eliminating Morse code requirements from amateur radio licensing would result in many more people becoming radio amateurs, have yet to present any specific data to support that claim.

James K. Boomer Credentials

- Licensed radio amateur since February 1947 (current call is W9UJ)
- Electronics Engineer, BSEE (Major in Communications Electronics), 1954 from the University of Nebraska
- Radio Design Engineer, Collins Radio Company, Cedar Rapids, Iowa, 1954
- Jet Fighter Pilot, Instructor Pilot, and Communications Officer, U.S. Air Force, 1954-1957 (leave of absence from Collins Radio Company for military service)
- Radio and Communication Systems Design Engineer, Staff Engineer and Project Engineer (including project engineer on the 62S-1 VHF converter for the Collins HF "S-Line"), Collins Radio Company, Cedar Rapids, Iowa, 1957-1964
- Communication Systems Design Engineer and Project Engineer for National Cash Register Company, Dayton, Ohio, 1964 to 1966
- Communication Systems Staff Engineer, Design Engineer, Project Engineer, and Engineering Section Manager at Magnavox Company (now Raytheon), 1966-1974
- Communication Systems Senior Marketing Product Manager at Magnavox Company (now Raytheon), 1974-2000—Retired in 2000.